

WHAT IS CLAIMED IS:

1. A liquid crystal display comprising:

a liquid crystal panel including a plurality of pixels including switching elements, a plurality of gate lines for transmitting gate signals to the switching elements, and a plurality of data lines for transmitting data voltages to the pixels;

a data driver including a plurality of data driving ICs connected to respective sets of the data lines, receiving image data, and applying the data voltages corresponding to the image data to the data lines; and

a gate driver applying the gate signals to the gate lines,

wherein the data driving ICs are supplied with a ground voltage and a supply voltage and voltage levels of the image data swing with reference to a reference voltage lower than the supply voltage.

2. The liquid crystal display of claim 1, wherein the data driving ICs are mounted on the liquid crystal panel.

3. The liquid crystal display of claim 1, wherein the image data received by the data driver are first inputted into at least one of the data driving ICs and shifted to other data driving ICs.

4. The liquid crystal display of claim 3, wherein the data driving ICs include first and second sets of data driving ICs and the image data include first and second image data to be inputted into the first and the second sets of data driving ICs, respectively.

5. The liquid crystal display of claim 4, wherein each of the first and the second sets of data driving ICs includes one data driving IC receiving the image data from an external device.

6. The liquid crystal display of claim 5, wherein the image data for a data driving IC farther from the one data driving IC receiving the image data from the external device precede the image data for a data driving IC closer to the one data driving IC receiving the image data from the external device.

7. The liquid crystal display of claim 1, further comprising a voltage generator for generating the reference voltage to be provided for the data driver and for generating voltages required for the gate signals to be provided for the gate driver.

8. The liquid crystal display of claim 7, wherein the voltage generator generates a plurality of gray voltages to be supplied to the data driver and to be selected as the data voltages.

9. The liquid crystal display of claim 1, wherein the reference voltage is inputted to the data driving ICs simultaneously.

10. The liquid crystal display of claim 1, wherein a signal line for transmitting the reference voltage is provided on the liquid crystal panel.

11. The liquid crystal display of claim 1, wherein the image data have a voltage swing level lower than a voltage swing level of a signal transmitted in TTL/CMOS (transistor-transistor logic/complementary metal oxide semiconductor) transmission.

12. The liquid crystal display of claim 1, wherein the gate driver includes a plurality of gate driving ICs connected to respective sets of gate lines.

13. A method of driving a liquid crystal display including a liquid crystal panel having a plurality of pixels, a plurality of gate lines, and a plurality of data lines, a data driver including a plurality of data driving ICs for supplying data voltages to the data lines, and a gate driver for supplying gate signals to the gate lines, the method comprising:

inputting the image data to at least one of the data driving ICs; and

shifting the image data to the data driving ICs,

wherein the data driving ICs are supplied with a ground voltage and a supply voltage and voltage levels of the image data swing with reference to a reference voltage lower than the supply voltage.

14. The method of claim 13, wherein the shift direction of the image data is two.

15. The method of claim 13, wherein the image data has a voltage swing level lower than a voltage swing level of a signal transmitted in TTL/CMOS (transistor-transistor logic/complementary metal oxide semiconductor) transmission.

16. The method of claim 13, wherein the reference voltage is simultaneously inputted to the data driving ICs.